

**SHAPED GROUND PLANE FOR
DYNAMICALLY RECONFIGURABLE APERTURE
COUPLED ANTENNA**

ABSTRACT OF THE INVENTION

Method for controlling an input impedance of an antenna (100). The method can include the steps of coupling RF energy from an input RF transmission line (106) to an antenna radiating element (102) through an aperture (112) defined in a ground plane (110). For example, the aperture (112) can be a slot and the radiating element (102) can be a patch type element. The input impedance can thereafter be controlled by selectively varying a volume or a position of a conductive fluid (128) disposed in a predetermined region between the RF transmission line and the antenna radiating element. The volume of conductive fluid (128) can be automatically varied in response to at least one control signal (132).